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NOTES ON *GRETCHENA*: A NEW SPECIES AND THE SYNONYMY OF *GWENDOLINA* (LEPIDOPTERA: TORTRICIDAE)

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Abstract.—Morphological characteristics of *Gretchena* are discussed and compared with those of the related *Pseudexentera*. *Gretchena* ***obsoletana***, a new species occurring in California, is described and compared with *Epinotia biangulana* (Walsingham), with which it has previously been confused. *Gwendolina* is synonymized with *Gretchena*.

Gretchena was described by Heinrich (1923) to include eight species of Nearctic Eucosmini that were characterized chiefly by distinctive male genitalia. References to *Gretchena* have been scant since 1923 but include the description of an additional species by McDunnough (1925) and the occasional mention of the pecan bud moth, *G. bolliana* (Slingerland) (Payne et al., 1979). The larvae of *G. bolliana* and *G. dulciana* Heinrich have been described by MacKay (1959). Tedders and Osburn (1970) have described the morphology of the female reproductive system of *G. bolliana*.

Adults of *Gretchena* have a gray to grayish-brown ground color. In most species, the basal patch is distinct and is usually more distinct on the inner margin than on the costa of the forewing. Median and apical streaks are present on the forewing of most species and are often confluent with each other. *Gretchena* and the related *Pseudexentera* Heinrich are superficially similar; some species are often mixed in collections. Heinrich distinguished *Gretchena* from the latter by the presence of raised scales on the forewing and by characters of the genitalia. As the raised scales are often difficult to detect, characters of the genitalia should be used to separate the two genera.

In males of *Gretchena*, the uncus is absent; the elongately triangular socii are separate and are joined with the tegumen dorsally; the aedeagus is long and is supported by a long caulis of the juxta; and the cucullus of the valva has a projecting anal area with developed anal and ventral marginal spines. In *Pseudexentera*, the males have socii that are fused basally and anal and ventral marginal spines of the valvae are absent. The valvae are more setose

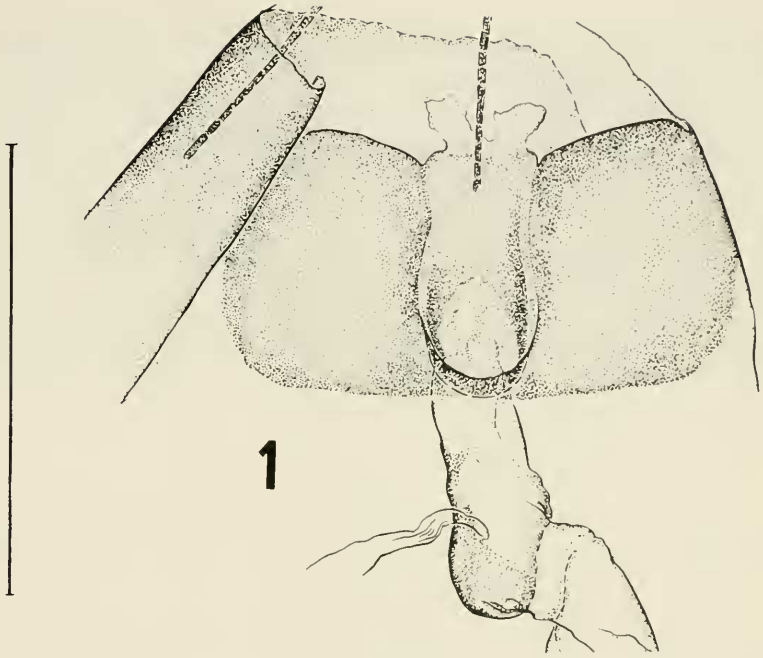


Fig. 1. *Pseudexentera spoliana*, ♀, 7th sternum and lamella postvaginalis: Ithaca, N.Y.; R. L. Brown genitalia slide 252. Scale line = 1 mm.

in *Pseudexentera* than in *Gretchena*. Male genitalia of the two genera have been figured by Heinrich (1923).

The females of *Gretchena* have a seventh sternum that is not emarginate around the ostium bursa; the posterior margin of the sternum is inflected greatly; the lamella postvaginalis is reduced; the ductus bursa has a long, sclerotized band; and the globular corpus bursa has two signa. The females of *Pseudexentera* are distinct from *Gretchena* in having a seventh sternum that is deeply emarginate around the ostium and a well-developed lamella postvaginalis (Fig. 1). Females of these two genera can be separated easily, without dissections, by the scale patterns on the seventh sternum that indicate the presence or absence of an emargination.

Of the eight species included by Heinrich in *Gretchena*, seven occur in eastern United States and one occurs in California. The California species was misidentified by Heinrich as *Steganoptycha biangulana* Walsingham. Examinations of type-specimens of Eucosmini in the British Museum (Natural History) have revealed that Walsingham's species, described from Oregon, is a polymorphic species belonging to *Epinotia* Hübner. Although

Fig. 2. *Gretchena obsoletana*, paratype ♂; Mt. Washington District, Los Angeles, Calif.; approximately 4× natural size.

Heinrich figured the California *Gretchena* species and differentiated it from related species, the following description is given to make a name available.

Gretchena obsoletana Brown, New Species

Figs. 2–4

Description.—*Head:* Frons and labial palpus dark grayish brown, vertex dark grayish brown, tips of scales white.

Thorax: Mesonotum dark grayish brown to brown, tegula dark grayish brown basally, grayish brown to brown apically.

Forewing (Fig. 2): 8.5–9.0 mm long; ♂ costal fold absent; termen weakly convex; ground color grayish brown, most scales with white tips; basal patch dark grayish brown, basal inner margin suffused with light grayish brown in some specimens; median fascia weakly defined in some specimens, dark grayish brown; outer marginal scales unicolorous with or slightly darker than ground color.

Hindwing and abdomen: Light grayish brown, without contrasting colors dorsally or ventrally.

Male genitalia (Fig. 3): Tegumen narrow, expanded below socii; socius with dorsal margin irregularly serrate, apex directed dorsally, setose from near base to apex; gnathos arising from ventral bases of socii, lightly sclerotized; caulis without lateral flanges; anellus not closely surrounding aedeagus ventrally; aedeagus with 20–22 cornuti; cucullus with 1–5 ventral marginal spines. Six preparations examined.

Female genitalia (Fig. 4): Sternum VII with posterior margin inflected inward, posterior lateral areas sclerotized, not in same plane as posterior median area. Tergum VIII without lateral extensions, without scales or se-

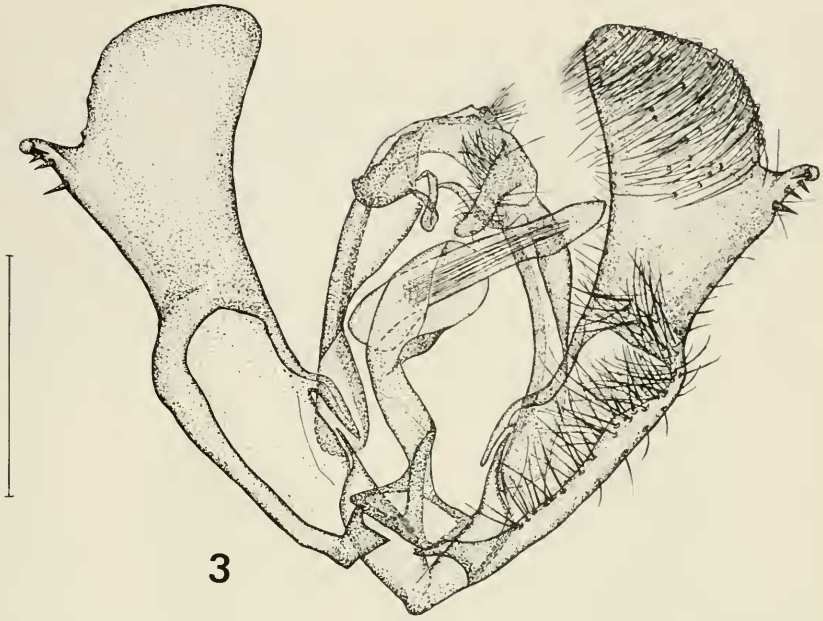


Fig. 3. *Gretchena obsoletana*, paratype, ♂ genitalia; Los Angeles, Calif.; USNM genitalia slide 17785. Scale line = 0.5 mm.

tae. Papillae anales with shallow, posterior cleft, setae moderately sparse, numbering less than 7 across middle of one ventral face; sterigma forming ringlike antrum cephalad to posterior margin of sternum VII; poststerigmal membrane covered with small papillae between ostium and papillae anales; inception of ductus seminalis cephalad to sclerotized band of ductus bursae; signa subequal in size, equidistant from neck. Three preparations examined.

Holotype.—♀, Los Angeles, California, L. A. Co., elev. 840 ft., Mt. Washington Dist., III-30-1976; at light, J. Powell, Collector; genitalia slide 970, R. L. Brown; in California Academy of Sciences, San Francisco, on indefinite loan from University of California, Berkeley.

Paratypes.—California: Same data as holotype, 6 ♂, JAP genitalia 4083, in University of California, Berkeley; same data as holotype, 1 ♂, R. L. Brown genitalia slide 969, R. L. Brown photo 157, in R. L. Brown Collection; Ventura Co., N end of Casitas Res., III-16-67, Collectors P. A. Opler, J. Powell, 1 ♂, JAP genitalia 2225, in University of California, Berkeley; 1 ♀, in R. L. Brown Collection; Saticoy, 3-6-17, S. E. Flanders, Collector, 1 ♂, AB genitalia slide Mar. 20, 1927, in the National Museum of Natural History, Smithsonian Institution. The following 7 specimens are labeled as collected by Coquillett in California and probably represent one lot; all have

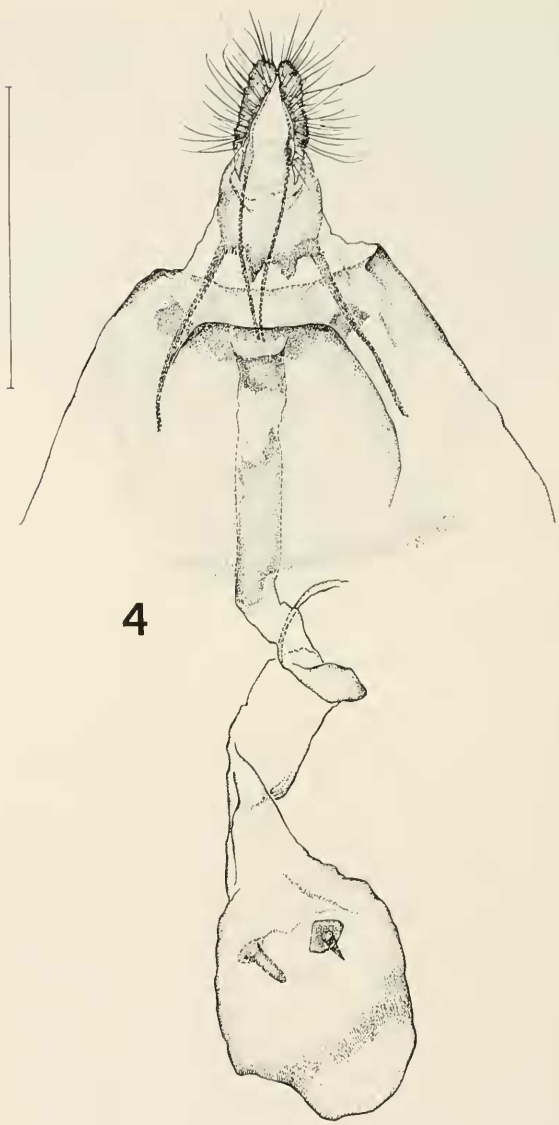
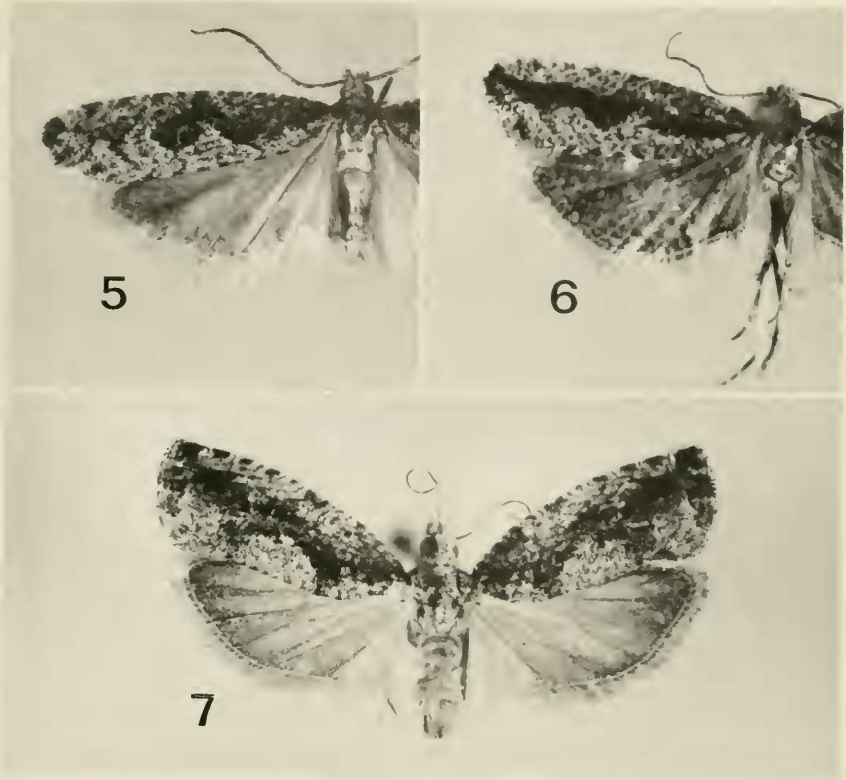


Fig. 4. *Gretchena obsoletana*, paratype, ♀ genitalia, unmated; Los Angeles, Calif.; USNM genitalia slide 17783. Scale line = 1 mm.



Figs. 5–7. Imagos, approximately 4× natural size. 5, *Epinotia biangulana*, ♂; Siskiyou Co., Calif. 6, *E. biangulana*, ♂; Marin Co., Calif. 7, *Gretchena concitatricana*, ♀; Cave Creek Canyon, Chiricahua Mountains, Ariz.

"62" on the first label, with 2 specimens also bearing "164" on a second label. Three specimens are labeled "Los Angeles"; 3 other specimens labeled "through C. V. Riley 1888": 3 ♂ (one without abdomen), USNM genitalia slide 17785, CH genitalia slide 19 Nov. 1917; 3 ♀, USNM genitalia slides 17783, 17784, CH genitalia slide 21 Feb. 1940, #7, in the National Museum of Natural History, Smithsonian Institution; 1 ♂, in University of California, Berkeley. [Two pupal exuviae are included with this series, labeled—"62, Cal., Coquillett, Collector, through C. V. Riley 1888".]

Remarks.—*Gretchena obsoletana* can be separated from other species in the genus by the uniform, grayish-brown color of the apical half of the forewing, lacking median and apical streaks. This species can be superficially distinguished from *Epinotia biangulana*, also occurring in California,

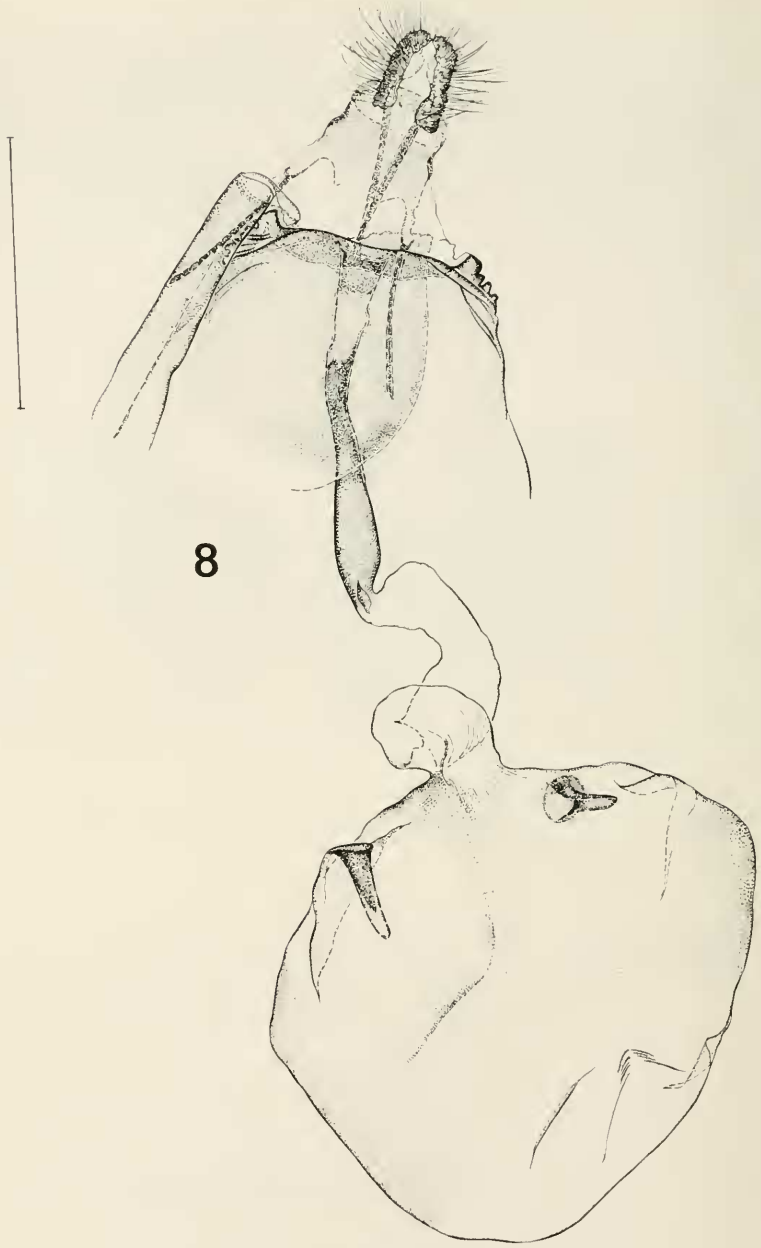


Fig. 8. *Gretchena concitatricana*, ♀ genitalia, mated; Madera Canyon, Santa Rita Mountains, Ariz.; USNM genitalia slide 17785. Scale line = 1 mm.

by the shape of the forewing termen, slightly convex in *G. obseletana* and emarginate in *E. biangulana*. The latter species also has hindwings that are mottled rather than being uniform in coloration (Figs. 5, 6).

Gretchena Heinrich

Gwendolina Heinrich, 1923. New Synonymy.

Gwendolina was described by Heinrich (1923) to include a single species, *concitatricana* Heinrich (Fig. 7). Heinrich distinguished this species from *Gretchena* by wing venation, male genitalia, and secondary sexual characters. According to his description, the hindwing has veins M_3 and Cu_1 connate or very short stalked; the male genitalia (figured by Heinrich) are similar to *Gretchena* except that the socii are not strongly chitinized nor elongately triangular but are as broad as long and almost circular; the male has a forewing costal fold and heavy black sex scaling on the upper surface of the abdomen, on the upper surface of the inner margin of the hindwing, and along the upper and lower margins of the cells on the undersides of both wings.

The acquisition of additional material, and the reassessment of characters used for defining genera provide the basis for synonymizing *Gwendolina* and *Gretchena*. In a series of *concitatricana* collected by Ronald W. Hodges in Arizona at Madera Canyon, Santa Rita Mountains, veins M_3 and Cu_1 vary from nearly connate to stalked over one-third the length. The differences in the male genitalia between *Gwendolina* and *Gretchena* are only of species level significance. The female genitalia of *concitatricana* are similar to other *Gretchena* species, differing in having short projections on the posterior lateral angles of the seventh sternum (Fig. 8). The absence of secondary sexual characters are not of generic significance. These characters, such as the costal fold and sex scales, are reduced or lost independently in many groups, e.g. *Epinotia* and *Rhopobota* Lederer.

Acknowledgments

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NOTE

Change of Name of a North American *Ypsolopha* (Lepidoptera: Plutellidae)

Cataloging of the world microlepidoptera fauna has uncovered an overlooked homonym caused by the inclusion of two species of the same name in the plutellid genus *Ypsolopha*. The species homonymy was previously not existent due to the prevalent usage of the genus name *Cerostoma* Latreille. *Ypsolopha* Latreille, 1796, and *Cerostoma* Latreille, 1802, are now considered congeneric. The following correction is therefore recorded:

Ypsolopha buscki Heppner, **New Name**

Cerostoma manella Busck, 1903, J. N.Y. Entomol. Soc. 11: 51 (type-locality: Williams, Arizona), preocc. in *Ypsolopha* by *Ypsolophus* [sic] *manella* Möschler, 1890, Abh. Senckenberg Nat. Ges. 15: 344 (type-locality: Puerto Rico).

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